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Testimony in Opposition to Senate Bill No. 634 and House Bills No. 5554 and 6056

Senator Maynard, Representative Guerrera and members of the Connecticut General Assembly's Transportation Committee, please accept this written testimony in regard to legislation enabling red light camera enforcement. I am Barbara Langland Orban, Ph.D, Associate Professor and MHA Program Director for the Department of Health Policy and Management at the University of South Florida College of Public Health in Tampa.

Our interest in red-light cameras began in 2005 when Florida legislation proposed making red light cameras legal with a portion of the fine accruing to trauma center hospitals. This was in response to trauma surgeons seeking funding to subsidize trauma centers. Instead of endorsing the legislation, Florida trauma surgeons took no position on the bill due to the Office of House Majority Leader's report (2001) that cameras were associated with large increases in rear-end crashes. The increase occurs because cameras result in abrupt stopping, which is a hazardous driving action that is associated with rear-end crashes. One of our publications explains why such rear-end crashes can occur even when correct following distances are used.

We have three main conclusions about red light cameras (RLCs) and related research, which are explained below.

1) ***The research studies that adhere to scientific research methods consistently conclude that RLCs are associated with increases in crashes and injuries.*** These studies correctly adjust for other factors that can influence crashes, such as traffic volume, speed limit, yellow light timings, and the trend over time.

2) ***The research studies that conclude cameras are associated with a safety benefit violate research methods by using improper methods.*** Four examples of such research errors are explained below in relatively simple terms.

    a) Some studies do not separately measure or report changes in crashes or injuries at RLC sites. Instead, they merge RLC sites with non-RLC sites and deem this combination as the "treated" (camera) group, even though the non-RLC sites did not have the RLC intervention. For example, the IIHS study published in the American Journal of Public Health and the IIHS 2012 analysis of fatalities did not study RLC sites. Instead, they included all signalized intersections in the communities as sites receiving the intervention (camera). This avoids disclosing actual changes in crashes and injuries at the RLC sites, recognizing RLC sites were a minority of sites in the "treated" group.

    b) Some studies have failed to use a comparison/control group that is similar to the treated (RLC) group, as required in scientific research methods. A similar comparison group allows for concluding whether changes taking place at intersections over time are actually due to the RLCs, or due to some other effect, such as the time trend of decreasing red light running crashes that is occurring nationwide. Unscientific studies

have used dissimilar comparison sites. For example, the IIHS study published in the American Journal of Public Health used non-signalized intersections as the comparison group. These intersections will have no red light running crashes in either the before or after time period, which allows for attributing the time trend to RLCs.

c) Some studies have reported percent changes instead of actual crash and injury counts. Percent changes can hide meaningless count changes. For example, the IIHS analysis of fatalities reported a larger percentage rate reduction in red light running fatalities in cities that used RLCs relative to those that did not. However, this outcome results from the non-RLC cities having a much lower fatality rate in the before period, meaning they were a dissimilar comparison/control group, as explained above in 2(b). The lower rate allows less ability to further lower fatality rates, as average rates were already much lower. The non-RLC cities had a lower average red light running fatality rate in both the before and after time periods, with some non-RLC cities having no red light running fatalities. The IIHS study emphasized the larger percent reduction in the RLC cities, and not the actual fatality rates. In truth, the IIHS study found that cities that did not use RLCs had lower red light running fatality rates, on average, throughout the study period, making them more successful in safety relative to cities that used RLCs. Further, some RLC cities had extraordinarily high red light running fatality rates despite the use of cameras.

d) One study incorrectly reported the results of the analysis. The IIHS study published in the American Journal of Public concluded that total crashes significantly decreased following RLC use, which was based on a reported number that would reflect statistical significance if it were true. However, we replicated their study and found the number they reported is incorrect, and the change was not statically significant, meaning there was not a significant decrease in crashes following RLC use. Nonetheless, the IIHS continues to reference their study.

3) ***The evidence-based approach at problem intersections is to increase the yellow-light timing to avoid having vehicles enter the intersection on a red light.*** Lengthening the yellow light timing by one second has been estimated to reduce red light running violations by 70 to 80 percent. The standard yellow light timing formula uses a driver reaction time to braking of one second, which is an average, meaning about half the population may be above the average. Thus, RLCs programs will ticket drivers who cannot achieve the "average" reaction time to braking and thus enter the intersection a fraction of a second after the light turns red, which results in a ticket. Since the range of driver reaction times can include up to two seconds, intersections deemed a problem should increase the yellow light timing by one second, which is particularly important to elderly and handicapped drivers who are more likely to have overall slower reaction times.

Please let us know if you have any questions about our analyses or conclusions.